

Title (en)

METHOD AND APPARATUS FOR THE SYNCHRONIZATION OF A DEVICE-TO-DEVICE COMMUNICATION

Title (de)

VERFAHREN UND VORRICHTUNG ZUM SYNKRONISIEREN EINER KOMMUNIKATION ZWISCHEN ZWEI ENDGERÄTEN

Title (fr)

PROCÉDÉ ET APPAREIL POUR LA SYNCHRONISATION D'UNE COMMUNICATION ENTRE DEUX TERMINAUX

Publication

**EP 3058793 A1 20160824 (EN)**

Application

**EP 15704618 A 20150128**

Priority

US 201461934028 P 20140131

Abstract (en)

[origin: WO2015115977A1] In one aspect of the teachings herein, a transmitter transmits synchronization signals according to one or more defined transmission characteristics that enable a receiver to distinguish the type of transmitter and/or the type of carrier used to convey the synchronization signals. Different types of transmitters reuse at least some of the same synchronization signal sequences and generation algorithms, but use different transmission parameters to impart one or more recognizable characteristics to the transmitted synchronization signals. In turn, an appropriately configured receiver "knows" which characteristics are associated with which transmitter and/or carrier types. For example, wireless devices operating in a wireless communication network transmit device-generated synchronization signals that reuse at least some of the same sequences used by network base stations for the transmission of network synchronization signals. However, device-generated synchronization signals are transmitted using a relative positioning or mapping that characteristically differs from that used for network synchronization signals.

IPC 8 full level

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Citation (search report)

See references of WO 2015115977A1

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**WO 2015115977 A1 20150806**; AU 2015211421 A1 20160728; AU 2015211421 B2 20171109; CL 2016001934 A1 20170113;  
CN 105940763 A 20160914; CN 105940763 B 20190712; CN 110113813 A 20190809; CN 110113813 B 20210810; DK 3058793 T3 20180102;  
DK 3285544 T3 20211004; EP 3058793 A1 20160824; EP 3058793 B1 20171018; EP 3285544 A1 20180221; EP 3285544 B1 20210811;  
ES 2656526 T3 20180227; ES 2894254 T3 20220214; HK 1223485 A1 20170728; IL 246669 A0 20160831; IL 246669 B 20190926;  
JP 2017507582 A 20170316; JP 2019013030 A 20190124; JP 6440213 B2 20181219; JP 6843463 B2 20210317; KR 101832650 B1 20180226;  
KR 20160114151 A 20161004; MA 39309 A1 20170131; MA 39309 B1 20171229; MX 2016009834 A 20161026; MX 352913 B 20171214;  
MY 181587 A 20201229; NO 2705215 T3 20180217; PH 12016501362 A1 20160815; PH 12016501362 B1 20160815; PL 3058793 T3 20180330;  
PL 3285544 T3 20211220; PT 3058793 T 20180108; PT 3285544 T 20210922; RU 2638030 C1 20171211; SG 11201605719U A 20160830;  
US 10009863 B2 20180626; US 10660055 B2 20200519; US 11330545 B2 20220510; US 2016278031 A1 20160922;  
US 2017273043 A1 20170921; US 2018279244 A1 20180927; US 2020245276 A1 20200730; US 2022182953 A1 20220609;  
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DOCDB simple family (application)

**SE 2015050087 W 20150128**; AU 2015211421 A 20150128; CL 2016001934 A 20160729; CN 201580006587 A 20150128;  
CN 201910537319 A 20150128; DK 15704618 T 20150128; DK 17185542 T 20150128; EP 15704618 A 20150128; EP 17185542 A 20150128;  
ES 15704618 T 20150128; ES 17185542 T 20150128; HK 16111671 A 20161008; IL 24666916 A 20160707; JP 2016549299 A 20150128;  
JP 2018167501 A 20180907; KR 20167023583 A 20150128; MA 39309 A 20150128; MX 2016009834 A 20150128;  
MY PI2016702752 A 20150128; NO 12779546 A 20120430; PH 12016501362 A 20160711; PL 15704618 T 20150128;  
PL 17185542 T 20150128; PT 15704618 T 20150128; PT 17185542 T 20150128; RU 2016135377 A 20150128; SG 11201605719U A 20150128;  
US 201514435236 A 20150128; US 201715615955 A 20170607; US 201815989263 A 20180525; US 202016848951 A 20200415;  
US 202117557660 A 20211221